97-84036-5

Vail, Theodore Newton

Some observations on modern tendencies

San Francisco

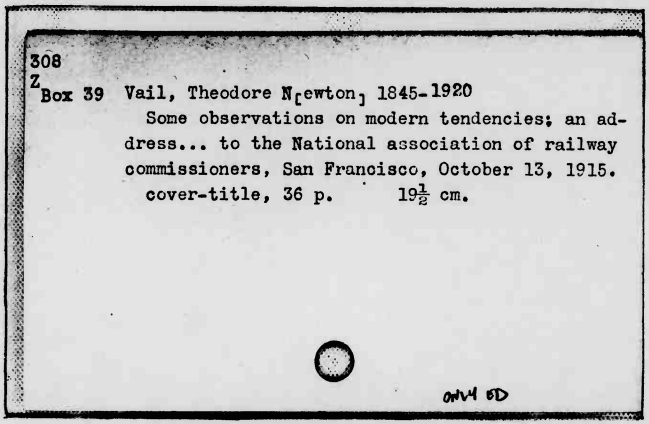
[1915]

97-84036-5
MASTER NEGATIVE #

COLUMBIA UNIVERSITY LIBRARIES
PRESERVATION DIVISION

BIBLIOGRAPHIC MICROFORM TARGET

ORIGINAL MATERIAL AS FILMED - EXISTING BIBLIOGRAPHIC RECORD


308
Z
Box 39 Vail, Theodore N[ewton] 1845-1920
Some observations on modern tendencies; an address... to the National association of railway commissioners, San Francisco, October 13, 1915.
cover-title, 36 p. 19½ cm.
ONVH 6D

RESTRICTIONS ON USE: *Reproductions may not be made without permission from Columbia University Libraries.*

TECHNICAL MICROFORM DATA

FILM SIZE: 35mm REDUCTION RATIO: 10:1 IMAGE PLACEMENT: IA (IIA) IB IIB

DATE FILMED: 3-4-97 INITIALS: MB

TRACKING # : 20815

FILMED BY PRESERVATION RESOURCES, BETHLEHEM, PA.

BIBLIOGRAPHIC IRREGULARITIES

MAIN ENTRY: Vail, Theodore Newton

Some observations on modern tendencies

Bibliographic Irregularities in the Original Document:

List all volumes and pages affected; include name of institution if filming borrowed text.

_____Page(s) missing/not available:_____

_____Volume(s) missing/not available:_____

_____Illegible and/or damaged page(s):_____

_____

_____Page(s) or volume(s) misnumbered:_____

_____Bound out of sequence:_____

_____Page(s) or volume(s) filmed from copy borrowed from:_____

_____

_____Other:_____

_____

X
_____Inserted material: before page 1

TRACKING#: MSH20815

308
Z
B07 39

SOME OBSERVATIONS ON MODERN TENDENCIES

AN ADDRESS

AT A

DINNER GIVEN BY THE
RAILROAD COMMISSION OF CALIFORNIA

TO THE

NATIONAL ASSOCIATION OF
RAILWAY COMMISSIONERS
SAN FRANCISCO, OCTOBER 13, 1915

BY

THEO. N. VAIL
PRESIDENT
AMERICAN TELEPHONE AND TELEGRAPH COMPANY

WITH THE COMPLIMENTS OF

THEO. N. VAIL

Sept. 15, 1916

SOME OBSERVATIONS ON MODERN TENDENCIES.

Mr. President, Commissioners and Guests:

It is indeed a great honor to have been asked to meet with you tonight, and far greater to have been asked to speak to you.

You have in your various official capacities the most momentous problems of the present to consider and to solve. Upon your action will depend not only the continuance and initiation of vast enterprises, but the very existence of vast wealth shared by millions of people. The well-being of all will be greatly increased or greatly diminished by your decisions and your acts.

No solution can be absolute; no human is omniscient; but in the composite wisdom, experience, and common sense of all, there will certainly be found a basis, a course to follow which will maintain such existing conditions as are good without putting the brakes upon progress.

Tonight we will try to state these conditions; to examine the causes which have produced them; and, if possible, to indicate a course of action for the future.

You will hear nothing novel or startling, only statements of fact about which there can be little dispute, and certain precepts, which have stood the test of time.

There never was in our country a stronger, better, underlying basic condition, or one more potential for good than that which exists today. There should be certainty and stability in our economic condition; instead there is uncertainty and doubt.

Instead of a settled and definite course of action there is a chaos of confused and continually changing thought.

As a consequence of perpetual striving for personal aggrandizement rather than for substantial public benefit, clear, well-defined economic, social and political policies are not being proposed for discussion and adoption, but are submerged under all sorts of fads, fancies and vagaries seriously advanced as cure-alls for every possible condition.

To just what extent this state of affairs will be carried, just what may be the outcome, just how far it will result in the disturbance or disintegration of basic and fundamental principles, is difficult to determine.

There is danger, grave danger, but offsetting this danger is the well-founded hope that when seriously aroused the American people will bring into action that common sense of which they are possessed, and avert catastrophe.

The great majority, so long as they are comfortable, are indifferent to disturbances. When disturbances become so serious as to endanger individual comfort, they arouse themselves, act with intelligence, straighten out affairs, and again sink into repose and soon forget that there was trouble.

While probably there never have been much worse, there have been similar disturbances. Let us make a thorough diagnosis of the disease and try to find the cure.

Controlling Conditions.

In all consideration of economic questions, actually existing conditions should be assumed to control. Past experience is a dependable guide so long as it applies to continuing or similar conditions. There is a tendency to ignore the past and the present, and set up as a basis

quasi ideal conditions which have no existence. While ideal conditions are much to be desired, until they are established, the closer we keep in our minds the actual conditions the greater is the possibility of improvement. Obstacles and difficulties cannot be ignored. Reform can only be accomplished by the co-ordinated effort of all, acting upon a correct understanding of real conditions.

There is a vast difference of opinion today as to what *are* the actualities. There are few mental visions capable of taking that comprehensive view of the whole field, essential to success in social or political reform.

Disputable speculations and assertions as to what is, or what will be—which appeal to human generosity or selfishness—are apt to be more controlling, than any presentation of actualities which may be unpleasant and obstructive. Obstructive conditions must be overcome by effort, whereas *hypothetical* difficulties can be dissipated by a change in phrasing or by an effort of the imagination. *Promise* can always eclipse *performance*. Performance never will equal irresponsible promise or prediction. Everyone knows the fate of him who tells the first fish story.

The Human Factor.

The past shows us that better social conditions are but evolutions, and have ever closely coincided with material progress. Whether or not material progress is the cause or only a potent influence may be debatable, but history seems to indicate that it is the advance agent.

Individual action is the most unsettling factor of human progress; it fluctuates between the extremes of perfection and imperfection. It is controlled and

influenced by habit, education, environment, temperament and passion; always generous and noble when influenced by known suffering it may be absolutely selfish when influenced by material possessions or individual comfort. There is a vast difference in "openness to conviction" of various individuals under similar influences. What course of action individuals will take under any given condition, or any given influence it is impossible to say.

That one has been right in any matter, is far from conclusive that he may be right in other matters. It is seldom that any individual who has succeeded in one line will succeed in other and dissimilar lines. Confidence in an individual because of some single success has caused many disappointments. There exists a strong tendency to place absolute confidence in some one individual, to make him the repository of confidence, and in social, economic or political matters, that individual is, for his group or his party, the dominant powerful intellect, and to him, individuals dominant in other things, leaders of reputation and experience, subordinate their own personalities; whatever he may advocate is accepted without question. This supremacy may be well deserved and worthy of the following; it may only be some strange fascination or some appeal to imagination. This power may be used for a worthy purpose, which when accomplished is of general benefit, or it may be used for a purpose, too large, involved and complicated for a leader who has the imagination to conceive great things but not the patience and ability to carry them to accomplishment. Before his followers realize his mistakes he may become so entangled, and he may have so entangled them, that the cause is lost and all have become involved in a maze of disastrous perplexities.

Or, the purpose he advocates may be false in principle, impossible yet plausible; even after his followers have lost confidence and failure is evident, they hesitate and are loath to assert themselves; some will not see, some will be held by a sense of personal loyalty, and some will selfishly hope for some individual benefit.

Greater disaster has been brought about, more characters have been smirched by blind confidence in individuals, than there have ever been through intentional deceit or fraud.

This phase of human character must be taken into account, for it explains many events in life otherwise not possible to understand. These peculiarities account for many fundamental differences of opinion on vital questions upon which each enthusiast thinks that there should be no honest difference and that all are wrong who differ.

There always will be honest differences of opinion and the only way to reach a workable condition of human affairs is by an "understanding" reached through discussion, and a "conclusion" reached through mutual concession. In this way a course of action will be determined in which all can acquiesce and toward which all can work in a spirit of hearty accord for a common purpose. While the conclusions may not be the very best—who can tell?—there is no question but that it will be the best that can be obtained.

Emotional movements are not permanent, nor are they stepping-stones to something better, for they are not based on any mental quality that leads to improvement.

It is easy to say but impossible to prove, what "would have happened". Time settles definite prophetic statements, but "might-have-beens" can never be determined.

All improvements in our social relations must be based upon improvement of environment and habit of the human mind; an evolution through systematic and practical education from existing conditions.

What Are the Influences That Have Been Working for Better or Worse in Our Economic and Social Relations and Conduct?

Within a recent period, no longer than one man's lifetime, tremendous changes have taken place.

When that individual was young, man was self-dependent. With the exception of the "luxuries" the man and the family produced and fashioned nearly every article of individual or household use, and were in a great measure independent of all others. Production and manufacture were by disassociated individual work, mostly by manual labor, or if centralized were in exceedingly small groups. Intercommunication was generally confined to the neighborhood; if extended beyond it was through occasional visits, or semi-occasional letters to which exceptional importance was attached. Intercommunication, intercourse or interchange between separate sections or states was uncommon and between separate nations and continents almost negligible. There were a few centres of trade and commerce. Fully half of the world was substantially unknown.

What has been the change in one "recent man's" lifetime?

Now the great majority are dependent upon others for the comforts, conveniences and necessities of life. Extreme parts of the country are now in closer connection than were neighborhoods; personal intercourse between individuals widely separated are but every day occurrences. The food upon the table is brought from distant lands, seas and forests.

Instead of disassociated manual labor, labor is now centralized in vast establishments where machinery has largely replaced manual labor. On the farm the raw material and produce is exchanged for the necessities of life manufactured elsewhere. The trolley car passes your door, and frequent and swift trains or traveling hotels are convenient for customary journeys between distant towns. For intercommunication the mails are frequent. For immediate communication the telegraph annihilates distance and for social or business conversation, whether with those in an adjoining house or distant city, the telephone makes personal intercourse possible.

The changes in habits, customs and conventions of our social organization have been greater in that "recent man's" life than in any previous thousand years.

Everything or nearly everything which contributed to these new, if not better conditions, were introduced as luxuries, soon became conveniences and almost imperceptibly became necessities.

That which contributed most largely towards these changes, and without which they would be impossible, is "intercommunication" and "transportation".

Intercommunication and transportation, cheap and efficient, has made possible the enjoyment of the world's products in every section and the assembling of raw material from widely separated sections at the most favorable point for manufacture and distribution; it has made possible transactions and intercourse between all parts of the world. It is now easier to arrange matters between individuals widely scattered than formerly between those in the same community. As intercommunication and transportation develops, so develops commerce and society.

What Has Been the Effect of These Changes?

The wealth of our country has been created by and is absolutely dependent upon these facilities; without them it would disappear. "Transportation and intercommunication change local stagnation to world-wide prosperity." Transportation and intercommunication have created, and upon their continuance depend, the populous and prosperous commercial and social centres. All other public services are subordinate to these.

Wherever man lives, in city or country, he is dependent; he must be served.

In the beginning these services were hailed and welcomed as "beneficial advantages"; soon they were regarded as "dependencies" of public favor, and as public dependence upon them increased, they were regarded more from the point of self-interest, and narrow consideration became prominent in all dealings with them.

This attitude was no new characteristic. Society has never allowed that which is necessary to existence to be entirely controlled by private interest. It has always been brought under sufficient control and regulation to prevent extortion or oppression, without destroying the conventional rights of property, which were additionally safeguarded by its character, its small investment, its adaptability to other purposes.

The construction and equipment of present-day utilities requires large "unrecallable" investment in special plant and equipment which has little or no liquidating value as a going concern of the same nature, and without equitable treatment there must be great loss.

These public services, to obtain the maximum benefit at the minimum cost, necessarily assumed the nature and many of the characteristics of "monopolies". This was made an excuse for the enactment of restraining

laws, and made them too frequently the target of misrepresentation and at times of veritable persecution which might be brutally described in the expression "might makes right".

The regrettable trouble, the greatest danger of all *is the lack of a proper recognition of the close interdependent relations between the prosperity of these utilities and the prosperity of the public.*

Reckless methods of promotion, and disregard of public rights by *some* of the *many* connected with these utilities, have antagonized the public and created the idea that the practices of a few were the practices of all. Some of the managers may have given too much consideration to their shareholders and too little to the public, forgetting the mutual interdependence and common interests, but there has been and there is a growing tendency to meet the public in a broad and liberal way. In many of the most marked cases of maladministration and reckless financial management the underlying purpose was to profit through the increase and improvement of facilities, and in nearly every, if not every instance, the public have obtained better, more extended and even cheaper services and facilities.

Much of the public misunderstanding and financial loss to the public has been through new promotions, which under the name of "competition" and the cry of "down with monopoly" duplicated in part existing utilities,—covered only the profitable part of the business,—and did not meet the essential "raison d'être" of a utility, which is, to afford facilities to all. Investment was increased without increasing facilities, and the power of the existing utility to extend service was lessened by dividing the profitable business.

Another and Even Greater Change Has Taken Place in the Conditions Which Control Human Progress in This Country.

During this same period, or one "recent man's" lifetime, the political as well as the economical and social structure has been revolutionized. The so-called democracies in previous periods of the world were in fact nothing but aristocracies.

Our government, organized as a representative republic, had at the beginning many of the elements of an "aristocracy". Those who by birth, education, or acquisition, occupied the leading positions in society had weight and influence in public as well as private affairs. This was but a continuation of the traditions and customs in the colonies and in the countries from which our ancestors came.

The change from an "aristocracy" to a real "democracy" did not take place until those earlier settlers and pioneers who subdued the wilderness, established new communities, and through suffering and privations became a self-reliant independent people, had established such an equality as did not prevail even among the original settlers of this country.

Much that is regrettable could not have happened if the new generations of our own people and the new immigration had found the same undeveloped wilderness to overcome as did the pioneers and advance agents in the settlement of our vast territory.

Instead of a wilderness, there was a settled country and superior conditions with sufficient possibility and potentiality to give abundant opportunity to all, native or foreign born, who had the initiative or the application to take advantage of it, and abundant occupation for those who preferred less, with less exertion, or were willing to be servers rather than leaders. All can now

secure with the broadest freedom, material comforts and satisfying environments superior to any that could be had, by any effort, in olden times, or in foreign homes.

The most marked changes have been:

Simple life to complex life.

Disassociated individual effort and small enterprises to centralized co-operative enterprises and aggregated labor. Highly skilled manual labor to automatic machinery.

Apparent corporate irresponsibility dominated by a few individuals, instead of individual responsibility.

Disturbance of relative standards of value of long standing, caused by great discoveries of precious minerals.

The great increase in nominal but not relative wealth of the individual, and a greater distribution of property to the whole public through the changing of the great potential resources of the country into tangible and realizable assets by the restless and resistless energy of the inventor, the dreamer, the optimist, backed by energy, initiative and persistency.

The introduction of new educational standards, which created wider and more envious distinctions between manual and intellectual pursuits, and forced the education of youth along lines which unsettled old ideas without replacing them by something as good or better, disturbing the old belief and faith in self-help and self-dependence, in industry, thrift and accumulation, all of which created in the minds of many, dissatisfaction with their own position and an antagonistic envy toward others more fortunate.

These changes have taken away from the partially educated or incompletely developed mind old and satis-

fying ideas, and created unrest, dissatisfaction and a gnawing suspicion that there is some magic power which is being used against them.

Millions of immigrants, at home controlled by fear and force, with no voice except that of secret lawless methods, with no realization of any difference between liberty and license, were cut loose from restraint imposed upon them by custom and tradition, and without education or ideas of public obligations were put on a political equality in every respect with those who by experience and generations of education were prepared for all the rights of higher citizenship.

All these discontented forces welded into solid phalanxes of voters led by self-seeking politicians who promise the impossible, have become an influence in the politics of the country that must be reckoned with.

Their relative influences have been increased by the indifference and neglect of civic obligations by representative and leading citizens, some of them all the time, and nearly all of them some of the time, and by the stubborn, unconceding resistance of impractical enthusiasts and their followers to any movement not of their own suggestion.

If but a small part of the wrong conditions which are believed by the dissatisfied to exist, did exist, the French Reign of Terror would be as nothing to what would be possible in this country at any moment.

But in face of these assertions all know that very many of our leaders of thought or industry and of those coming forward to replace them, are but the first or second generation from toilers in the ranks.

Before any permanent change can come, the whole public must be educated up to a full realization of their civic duties and responsibilities, and all must contribute

to the solution of civic problems and administration by giving generously of their individual time and effort.

Everything possible should be done to develop proper understanding and education. No matter what may be the future "uplift" or development some conditions will never change. Food and clothing and shelter, no matter how simple, must be produced and prepared for use by labor. Transportation and intercommunication must be provided by labor. All kinds of work must be done; agreeable or disagreeable; cleanly or soiling. From the raw material to the finished product, some must bear the physical burden, some the mental, and some the financial.

There must be mutual concession and subordination of the individual to the comfort of all. There must be leaders and followers, for without organization there can be only chaos. Society must be organized and improved if possible without destroying its essential elements, or man must go back to the primitive state where each does everything for himself, or by brute strength forces someone into slavery to do it for him.

Much can be done to improve conditions and environment surrounding labor and rest, but the only way to permanently better the condition of the individual is to teach him to raise himself, by his own efforts, into a better position and, by thrift, economy and intelligence in labor, and by absence of self-indulgence earn and save enough to take care of his future.

There must exist a curator for the spirit of the law. Dishonest practices now protected by sophistries and plausible evasions must be punishable. That can be accomplished by confining the statutory laws to general rather than specific subjects. There is abundant knowledge of right and wrong, and there are laws if enforced

and precedents if followed to reach all. If one uses or allows to be used a good reputation in ignorance of the purposes for which it is used, or misleads others through misrepresentation based on ignorance, it is a crime and should be so treated. Representation used for the purpose of influencing or persuading others should be based on actual knowledge and correct information.

The whole public must be convinced that nothing gained at the expense of others can be permanently beneficial; that no advantage to individuals or groups of individuals gained by combination of interests against other individuals, can be permanently beneficial; that waste and extravagance in public expenditure and administration cause higher taxes than all the graft of years. Our lawmakers instead of seeking new ways for taxation should curb reckless extravagance in public expenditure. Owners, proprietors and corporations may pay the tax, but every tax comes from the ultimate consumer. The tax is as much a part of the cost of the production as are wages, and between the raw material and the ultimate consumer come all costs. Profit is the incentive to production; without profit progressive industry would cease, but any unnecessary expenditure or *tax* is a brake on progress and a burden upon prosperity. Taxes, high cost of material, waste, idleness, careless work, are included in the rent of the tenement.

The rent is paid by the tenant.

No uplift can be permanent, no reform beneficial, without full recognition of the natural and cultivated differences in man. Some are leaders, some are dependent followers, some want restful positions, some only responsibility; some see and pluck opportunity from

sterile surroundings, others may be bombarded with opportunity but accept none of it.

All should realize that if we are to live in comfort the efforts of all must fit into each other and that some concession, some give-and-take, is necessary. When all these things are done, each will find his proper place in the social organization and all will be enabled to have their proper share in life and prosperity.

TELEPHONE.

The broadening extension and improvement of our industrial, commercial and utility enterprises; their application, availability and adaptability to the wants and necessities of humanity, are due in a very large sense to the introduction of scientific and technical methods into their conception, construction and operation.

The great profits which have been made in many industrial enterprises have not been extorted, as many believe, from the public through force of their necessities, but by giving to the public more or better at the same or less price and by more and better being produced by the same or less physical effort on the part of labor. Some of the greatest benefits have been through the elimination or utilization of waste, or the conservation of energy.

In all industrial or constructive enterprises the technical and scientific staff and the laboratory are as essential a part of the organization as any other, and the enterprise which neglects it cannot keep pace with others that do not.

Scientists and technical experts of the highest grade, such as were formerly to be found only in the laboratories or recitation rooms of colleges and universities,

are now found in the laboratories of every great industrial enterprise opening up new fields for old things, or developing new things for fields both old and new, and extracting from waste, something which will either add to or cheapen some necessity in life. This costs money and is only possible where the expense can be spread over such large production as to make the cost to each unit of production negligible. Consumption ceases when the unit cost of anything is made greater than the unit value to the consumer, and production must cease when the unit cost is made greater than the price obtainable.

In the development of the telephone, at the very start the investigation, research and experimental department was established.

Quoting from one of the reports of the American Telephone and Telegraph Company:

> "For this purpose a staff of technical, electrical and mechanical operating experts must be gathered together and educated. To educate and assist these, to enable them to do intelligent work, avoid repetition and duplication, all that had gone before and all that was being done here and elsewhere must be known. For this purpose a bureau of research and information was formed. Patent and legal experts must be employed and educated to secure the advantage of this work and study, as well as to furnish protection in the use of the patents."

Most if not all of the innovations in the telephone instrumentalities were first tried out, if not evolved, by that staff. This largely accounts for the present position of the Bell System and for whatever position it may occupy in the future. The staff includes a greater number of scientific and technical and mechanical experts of the higher grade than can be found in any

university or industrial enterprise in the world. It enables the Bell System to keep in advance of the art, protects the public from exactions of outside inventions, and gives every associated company in the system expert advice and expert assistance in the operation and improvement of the existing system and in the projection of future development.

Quoting from a recent report of the company:

> "This advance has not been dependent on any one invention, idea or suggestion, but is the result of tens or even hundreds of thousands of little things, each a spadeful, as it were, in filling up or removing the obstacles, and smoothing the paths of progress. Inventions of wondrous analytical subtlety have marked epochs in the progress of the telephone service, but in an art or industry or system made up of many interdependent operations and services; each new idea, no matter how controlling, must be adapted to what already exists to make it serviceable; any great or small invention is only useful when moulded into the mass so that its service becomes an undeterminate part of the service of the whole system."

The cost is large. It is spread over a vast system. The unit cost is small, but the results, almost unappreciable from day to day, are marked from year to year. The entire cost of years was saved to the public by the protection it gave against one claim of an extended patent, which would have prevailed except for the knowledge and information which this bureau had and which could be obtained from no other source.

This work could not be carried on by any disassociated, unrelated system of local exchanges; no limited system could give the universal service of the Bell System, of which every subscriber, is a center from

which conversation is possible to the extreme limits of the country. Nor is any like work being carried on by any government owned and operated telephone system in the world. All the world depends on the Bell for the latest and the best. Many novel projects are advanced by inventors or promoters, some legitimate, some for promotion purposes, but without any exception the only things in the way of intercommunication by conversation which stand the test of time are those which have been either initiated inside, or adopted and developed in the Bell System. The work is carried on quietly; and what is done or being done is not announced by promise or prophecy, but by introduction to public use.

In the improvement of new instrumentalities the "machine as a whole" must be put under trial. In most utilities the "system" is made up of separate "machines" or parts, each of which can be developed independently in different manufactories or laboratories and combined into one effective system.

The telephone "talking machine" is *not* the transmitter or the receiver alone. A single telephone or transmitter and receiver, without the connecting wire, is about the most useless thing in the world. The "talking machine" or "complete instrumentality" consists of the transmitter and receiver, the connecting lines, the switchboard, auxiliary apparatus, loading and phantom coils, and the thousand and one instruments and instrumentalities any part of which may be put in use for any conversation and all of which is necessary to complete a universal system. Every improvement must be demonstrated by use on the entire "talking machine" on the whole system; if it is but one unit the effect must be noticed on the whole and its connection with all other parts observed.

Quoting from a report of the company:

> "The telephone plant, in all its parts, must ever be subject to a process of evolution tending always to a higher and higher type. Its capabilities of responding to these advancing requirements furnish a good test of its design and efficiency and value.
>
> "The plant of the Bell System must not be regarded merely as a completed machine which becomes worn out, and then, after a time, is thrown away and replaced by a new one. It is like an ever-living organism, always growing in size and usefulness, incorporating into its structure what is new and improved, and eliminating the obsolete, the worn out and the used up. Thus it is kept permanently in a condition of full vigor and at the point of highest attainable efficiency, anticipating the ever-growing needs of the service and responding successfully to the always-increasing requirements of the public."

The problem *commenced* with the "smallest possible talking machine", a telephone transmitter connected with a receiver, such as Bell and Watson used in that first historic conversation. This small machine has expanded into one of many millions of receivers and transmitters, connected by millions of miles of wire, equipped with thousands of pieces of auxiliary apparatus. The present problem has to do with all of this. The problem of transcontinental talk could not be solved over a local circuit, nor a circuit reaching but half way; it had to be solved over an equivalent circuit connected with the system. The solution of talking through underground circuits could only be solved by actual underground circuits. The solution of the problem of electrical high tension interference could only be solved after those circuits were in operation and their effect

upon the system observed. The problem as to giving the most efficient local and long distance service to hundreds of thousands of subscribers had to be solved by observation and deduction on a system which had the lines and the subscribers. In other words, the telephone service of today has been an evolution, step by step, some short, none very long, from the original —"small machine"—i. e., two telephones and a connecting wire between adjacent rooms—to the existing nation-wide universal "talking machine" of the Bell System. The instruments which Bell and Watson used with difficulty between two rooms in the same building can now be used, because of the improvements to the "machine", to talk across the continent. Used under the same conditions as then existed, there would be the same limitations in talking.

It is well known that there is a decided limit to distance in underground electric transmission. The first long distance circuits had to be overhead from office to office. The short underground circuits of local exchanges, would at that time *kill* the transmission. In time, ways were found to overcome this effect, and long distance wires are everywhere connected with the local underground exchange systems. Before a long distance underground talking circuit was built it was thought by physicists that a couple of hundred miles was the limit, and even that distance could not be used as part of a longer circuit in connection with overhead circuits. Two hundred and fifty miles of underground line were built, and extended to five hundred. By the time the five hundred miles were completed, means were found to make conversation possible for that distance, and what was more important that five hundred miles could be used in a longer circuit consisting of

underground connected with overhead circuits. In the first transcontinental demonstration it was so used and in the first wireless transcontinental demonstration the talk from New York was transmitted to the wireless towers at Washington wholly through underground circuits.

When the first telephone line was built between Boston and Lowell, telephone experts did not believe that commercial talk would be possible, and if possible, did not believe that there would be business enough to pay expenses. After it was built, the Bell experts found a way to make conversation possible and business followed.

Physicists advised us that if the extraneous noises due to earth and atmospheric currents could be gotten rid of, it would be possible to talk between New York and Chicago over a copper wire as large as a man's wrist. Transcontinental talk is now being carried on over ordinary copper circuits and "phantom" circuits are now superimposed on the regular circuits increasing the line capacity. The Boston and New York line was projected; then Chicago, then Denver, each a step, and when the chief engineer of the Bell System advised that talk over a transcontinental line was possible, work was commenced and in July, 1914, the first test was made, and by January, 1915, the line was opened for commercial purposes.

If there were no Bell System—only disassociated individual companies or groups of companies, no line over a few hundred miles long would have been built, or if built it could not be operated as satisfactorily as under the present conditions. Efficient commercial telephone operation can only be maintained when every operator on the line and the system connected with it,

is under one control. For long distance and the wireless, the cost of experimentation, construction and loss before self-sustaining would be beyond the possibility of any one of the disassociated companies.

The development of the exchange service has been by the same process. As each hundred miles in the distance presents new problems, so does the adding of each hundred subscribers to a local exchange. When the development reaches city and suburban exchanges, with instantaneous connection and connection with adjacent exchange districts, the problems become very complicated.

When in July, 1914, after the talk to San Francisco, the chief engineer said that wireless conversation was possible, authority was given him to go ahead and for some months conversations were carried on between more or less distant temporary low power wireless stations. At last, believing that the art was at least as far advanced as was the art of telephony at the World's Fair in 1876 and further development depended on the use of the best wireless towers, we approached the Navy Department and immediately their great wireless stations were placed at our disposal. The wireless experts of the Navy became as much interested in the problem as were those of the telephone company. What was accomplished you know. What will be accomplished is unknown. Little by little, step by step, development is probable until it can be utilized at least as a supplement to the great Bell System.

Talking over wireless is like talking in a boiler shop. Earth currents, and electrical disturbances which sweep through space, are picked up by the wireless antennae and translated into noise by the delicate receiving instruments.

These storms are the bête noir of the wireless, whether telegraph or telephone, and for months at a time they will be so continuous and so serious as to make wireless communication over great distances impossible and over short distances extremely difficult.

There were the same difficulties in the early development of the telephone. The grounded telephone wires, acting as does the antennae of the wireless station, picked up these same currents and translated them into noise. Some may remember that these noises in early telephone times made conversation always difficult and sometimes impossible. The noises caused by earth currents were gotten rid of by making the telephone circuit of two wires entirely insulated from the earth. The atmospheric disturbances still remained but were neutralized by transposing the two wires, or virtually twisting them, and in this way the regular telephone conversational current was given a noiseless path. What device will be possible to neutralize the effect of these electrical storm disturbances on the antennae of the wireless is yet the problem of the future. Prophecy is easy, but in face of the seriousness of the problem, no one who has to make good will be likely to make any definite promises.

What the development of the telephone has emphasized is this fact, that the problems which have been solved could never have been by any system of disassociated unrelated local telephone companies. No one company would have had the "machine" to develop and for that reason no such problems. The magnitude and the cost and the advance work necessary would have been beyond any local system.

Given the idea and the knowledge and the brains, development in any line of art, science or industry is

largely a question of money, and as the world has seen from thousands of examples, some large and some of small importance, to spend money on an "idea" requires initiative, enterprise, courage, and the stimulus of reward.

The reward of the Bell System is protection to its shareholders through producing something better and of more value to the public at a price within the reach of all, and through the policy of making it so useful that no one can do without it.

CONTROL AND REGULATION vs. GOVERNMENT OWNERSHIP.

There are theoretically two ways of protecting the public in their assumed or real rights, so far as public service enterprises are concerned: First, "Government Ownership"; second, "Control and Regulation".

Government Ownership.

The most earnest advocates of government ownership will admit that it carries with it and cannot be divorced from many very undesirable conditions.

The most disturbing feature, and the most impossible of control, is protection from the government itself. It would be an unregulated monopoly, with unrestricted, unlimited powers, serving *individuals* for their *private* advantage and benefit at the cost of the *general* revenue.

Government ownership would introduce beyond a possibility of prevention partisan and political control into enterprises absolutely non-political and which should have a purely business management. Whatever public demand there is for government ownership is not because of faith in the efficiency of the government but because of a fear that in some unknown mysterious way

individual interests may be affected by private enterprise.

All will concede that if but a part of the mismanagement and waste revealed by investigations of government operation are true, the public could not be satisfactorily served by any management under our form of government.

For the protection of the community, of individual life and health, there are some necessities that should be provided for all at the expense of all, such as roads, pure water and sanitary systems for concentrated population, and reasonably comprehensive mail service. The determination between services that should be operated by the government and those which should be left to private enterprise under proper control should be governed by the degree of necessity to the community as a whole as distinct from personal or individual advantage. The mails might be put in the doubtful column under this distinction; but it must be remembered that originally the mails or posts were put under government operation for other reasons, and it is a grave question whether the great extension of the mails to purely commercial purposes at the expense of the general revenue has not extended the postal system beyond its scope or advantage, even in its broader interpretation.

It is within the power of everyone by personal observation to determine the efficiency of publicly managed operations.

Do your letters come to you as quickly as is possible? Do you depend on the mails even for over-night distances in matters of importance, or upon the telephone, telegraph or private journey? Are you treated considerately, efficiently and promptly by public employees?

What politically managed enterprises are there that

have not deficiency in service and deficit in operation, if measured and audited as private operations are?

While there are many enterprises, like gas and electric light, owned and successfully operated by municipalities, they are limited in size and are usually administered by those who give their time without cost. On a larger scale of operation, with larger problems, the time and attention necessary would so cut into or interfere with regular occupations, that free administration could not be depended upon and efficient managers could only be obtained in the open market in competition with private enterprises.

Deficits in government operation, like waste in political administration, are acquiesced in because of the political activity of those benefited and the indifference or apathy or helplessness of those who bear the burden.

Those who point to the admitted or supposed efficiency of the post office should remember that that portion of the post office service conducted by the government embraces only the collection, distribution and delivery of the mails through disassociated independent post offices. The transportation of the mails from post office to post office—the largest and most complicated part of the service—is by transportation facilities developed, administered and operated entirely by private enterprise. The department admits the rural delivery as conducted by the government is wasteful, and that equal efficiency could be obtained and millions could be saved if it was farmed out.

In considering the question of government ownership of utilities the form of organization of the government itself will be found to be controlling.

That government which now has the broadest and most extensive control of its utilities, is the most highly

and thoroughly organized government in the world. Its efficiency has been recently displayed in a very striking manner. It is in operation an autocratic aristocracy with some elements of popular voice and freedom of expression. Its subjects *en masse* are not potent nor likely to protest except under great provocation, or so long as freedom of activity and opportunity to profit remain in private enterprise. There probably would have been less government ownership had it not been for controlling military and political reasons.

In the administration its executive and operating departments are permanent organizations, with permanent officials and employees. All of them have a prestige and standing only a little below that of officers in its military organization, and decidedly higher and apart from ordinary citizenship, which makes the positions acceptable and desirable to many, even at a small compensation. In all branches there is opportunity for anyone to reach even the highest positions, through displayed efficiency and ability.

The policy of the government respecting its commercial and industrial development both domestic and foreign is strongly progressive and helpful. In furtherance of those interests all sorts of subventions, special concessions and discriminating rates are made. The whole country is but the size of one of our states, densely populated with numerous large centers, which simplifies the problem. With all these advantages, the success obtained is not such as would commend it to other countries.

While this policy has prevented speculation in utilities, the wildest speculation in all lines of industrials has been if not encouraged, at least allowed, and against this there seems to have been no objection on the part

of the government nor protest or opposition on the part of the public.

The prices charged for the same class of service are more or less the same as in the United States. Ordinary services, which in fact are deferred, are cheaper, but charges for their preferred services, which compare with our ordinary service, are about the same or more. If wages and other costs were considered, the advantage would be greatly in our favor.

Is Our Form of Government Adapted to Operation and Management of Utilities?

Our government is a representative democracy. The policy which determines the action of the administration is settled for the time being, and the leaders selected, by a plurality of those who are interested enough to vote, which seldom if ever constitutes a majority of all.

Crops, employment and other commercial conditions have been the determining factors as to whether one of the old parties, or some one of the recurring new parties, should for the time control the government. Whichever party, whichever political policy temporarily comes in, with it comes a radical change in departmental policy and a change in all the responsible heads of the departments, and all the responsible subordinates. There is much the same change in the departmental and bureau chiefs, if the same political party is continued in power.

The heads of departments are not selected on account of their experience or knowledge of the business which they are called upon to direct, nor necessarily with that of any similar or any other business. To point out deficiencies, and promise reforms becomes a necessity to every candidate for office. The controversial and

exceedingly exciting political campaigns are made up chiefly of accusations, if not of absolute crookedness at least of the grossest incompetence of those in office, and of reckless promises of all sorts by those who want to get in. These campaigns are the cause of irreparable damage, for much that is alleged though never proved is believed by the public.

If but a small part of these alleged evils did exist, an absolute cleaning out of all, and the prosecution of many would be a positive duty, for such frauds or such corruption as are alleged cannot exist at the head without the knowledge of all, and the participation of many. The tenure of office is too brief to reform any deep-seated irregularities. To perform the duties of his office is enough for any official even if he has had the necessary training. When to that is added the usual political activity, the most capable must fall short, even with the best intentions.

Because of these conditions governmental "operation" must be reduced to rule and regulation; individual initiative or responsibility is impossible.

It is not the fault of department heads, subordinate chiefs or of employees, but it is an essential part of the system. Some call the system "red tape" and speak of it sarcastically. *It is necessary* and *without it,* under our *political* form of government governmental business *would* be demoralized. It is expensive and inefficient, except for routine work. Clerks and officials may come and may go, but the business will go on in the ruts of systematized routine. Mediocrity will remain. Capacity soon seeks other fields of action. Initiative, enterprise, is too upsetting to be tolerated and too destructive to allow it to get much notice.

Do not understand that this is a tirade against our form of government; it is not, it is simply a broad state-

ment that our government activities can never successfully include industrial and commercial enterprises or developments.

In all industry or enterprise, inequality begins to develop itself at the threshold, and continues throughout the whole organization. No two workers are equal as to the amount or quality of accomplishment. Full recognition of *this* and *no other consideration* must determine the place of each individual in a successful organization.

Without an operating organization absolutely divorced from and independent of our political organization, there would be demoralization and disaster should any of the utilities be taken over by our government.

The question is one of great importance. Nothing should be attempted without the most thorough and painstaking investigation controlled by a desire to make the "finding" consistent with the actualities, and not to make the "actualities" fit preconceived ideas or desires.

The only practically democratic government, speaking a common language with us and having a highly specialized and fairly continuous civil service, is that of Great Britain, which took over a previously profitable telegraph service in 1870. Since then it has lost many millions of pounds in its operation with an increasing annual deficit, which for 1913 amounted to over $6,000,000. The telegraph rates, taking into account distance, wages and other controlling factors, are substantially the same as in this country even before the increase of 50% in the minimum rate recently made.

The National Telephone Company's exchange service was taken over in 1911. The company had been paying the government an annual license fee of about two

and one-half million dollars, and paying its own security-holders approximately 6% out of its earnings.

Although the government had a telephone organization, which operated the toll lines and some important exchanges, although this organization like that of the telegraph and post office is permanent with permanent executive heads, although it took over the organization of the private company, the telephone service earned for the year 1913-1914 only one and one-half million dollars, but little more than one-half the license fee paid the government. The government operation has so far been very far from satisfactory and the public are clamoring for a service free from political and parliamentary control.

Control and Regulation.

In the early history of our civilization, in a dispute between arbitrary power on the one hand and the rights of the people on the other hand, trial by one's peers was instituted. The powers of the "Jury of Peers" were to ascertain and determine the facts in all cases of dispute.

This institution has served well and long in our history, and nothing has appeared which either is or promises to be as satisfactory.

There are differences as to statements of fact between the public and the public utility enterprises, particularly those of transportation.

There are in most of the states and in the nation commissions of control and regulation, which are in effect juries, to determine the dispute. What better way can or could be devised for the settlement of all these questions? *This is the practical way.*

When juries were originally constituted for the protection of the rights of the people, great care was taken

that they should be non-partisan, non-political and absolutely independent even of the most arbitrary sovereign. In letter at least these conditions have never been departed from.

What better fundamental principle or policy than this could be adopted for our commissions of regulation and control?

These commissions have to protect the "individual member" of the public *against corporate* aggression or extortion, and the *"corporate member"* of the community *against public* extortion and aggression. They get their power from, are answerable to, and dependent upon the public. That public is an interested party in the controversy, just as susceptible of wrong notions, wrong impulses, as any individual, but with no individual responsibility or conscience. For this, if for no other reason, prejudice and partisanship should be absolutely guarded against and there should be the most careful provisions safeguarding to these commissions their independence and liberty of action.

It is difficult for any human being to rise above his prejudices or preconceived notions, but our higher judiciary has shown that a body of men can be brought together which will assume the gravest responsibility and act with wonderful efficiency and equity when its absolute independence is guarded by a zealous public.

Public jealousy for the absolute independence of the jury has been an effectual safeguard to the individual and to society. While in the workings of our jury system errors may have been committed, there is no living man who will not cling to it for his protection.

Cannot the position of our commissions of control and regulation be as firmly established? They were created because of the necessarily superficial, and very unsatis-

factory and uncertain control and regulation by direct legislation. The system could not be perfect from the start, for practice and experience alone make perfect. The few years of experience have demonstrated the power for good when exercised along the best lines, and the power for evil when prejudice, partisanship and incapacity creep in.

To equip our commissions for the best service, the appointees must be of the highest standard, selected because of their general and broad experience and reputation among their fellow men. To secure such individuals, the positions must command the highest respect and their decisions, even if not entirely satisfactory, should not be subjected to captious criticism or objection.

So long as the duties are confined to control and regulation, and are judicial, not executive, there is a large field from which to select the most capable of men.

Against grave errors or findings, against usurpation of power, there is and should be the protection of the courts. An orderly appeal from a commission to a court should not be considered in any sense as a resistance to constituted authority.

In the work of the commissions, many of the subjects are recurring and of substantial similarity, in the consideration and determination of which experience and intimate familiarity with the subject and with past practice and precedent is necessary. For these reasons the term of office should be of sufficient length to give the public the benefit of that education to which necessarily the early period of their official tenure is devoted.

The positions should be appointive, not elective. The tenure should be for life, subject to removal only by

impeachment. If the tenure is limited and if in the performance of official duties any member establishes his sufficiency for the position, reappointment should be an established practice.

The compensation should be commensurate with the importance of the office, and there can be none more important. It should be sufficient, together with the prestige of the position to command the services of the very best citizens regardless of their private means.

Upon these commissions as bodies, and the members as individuals, will depend the future of "Control and Regulation". Never probably has there been a new departure established any more satisfactorily, under such difficult, uncertain and unstable conditions. Established to restrain and suppress on the one hand the inertia of certain evils which have been ingrained in our commercial practices, and on the other hand to restrain an indignant and excited public, that public by which it was created and could be destroyed, it has done *so* much, *so* well, that there is absolute proof of its great possibilities under perfected organization and a higher public recognition.

Let us resume prosperity:

Since coming to the Coast we have heard much about overproduction, about crops without market, fruit rotting on trees. We heard in the East last winter and spring, much the same about industrial enterprises being shut down for want of demand for the commodities.

The trouble is not *overproduction.* It is *underconsumption.* Put the millions of men now idle,—or working temporarily on war materials,—at work permanently. Those now at work temporarily are not yet consumers in the big sense; they are paying off debts incurred, or making good the savings spent during the idleness of last year and spring. Put them at work permanently in the upbuilding of our enterprises of utility and transportation.

Establish rates that will make the investment in these enterprises so certain that the hundreds of millions of capital necessary for their extension and improvement will be forthcoming.

There is plenty of idle money, as well as idle men. Put the money at work; turn it into productive labor.

The spending of this money on constructive activities will put a good part of these millions of men at work, —and those millions will start such *consumption* of all commodities, as will make work for all the others.

Instead of *overproduction* there will be *underproduction* in all the workshops, orchards and fields of the country.

What matter it, if some roads do become far more prosperous than the average? It is necessary that others may live. There are, and always will be unequal conditions. Some roads can prosper and pay liberal dividends on rates that will hardly pay operating expenses of others. Natural inequalities cannot be regulated or controlled by man. Let natural and economic laws do that.

Put men into a new country, some will prosper, others barely make a living. It cannot be prevented, unless you kill prosperity for all.

Suppose some prices are increased a little. What matters it when all have incomes to buy. The producer may pay a few cents more freight on each box of fruit, but it is better to do that, get his costs and some profit, than to get nothing.

A man earning wages can pay a high price. One not earning cannot pay any price.

Past experience should teach all of us that when prosperity sets in she is no niggard with her favors.

PERNAU PUBLISHING CO.
763 MARKET STREET
SAN FRANCISCO

MSH 20815

END OF
TITLE